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PATENT SPECIFICATION

Application Date: July 22, 1930. No. 22,058/30.

351,284

Complete Left: April 22, 1931.

Complete Accepted: June 25, 1931.

PROVISIONAL SPECIFICATION

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Improvements in and relating to Wood Planing and Moulding Machines.

We, THOMAS ROBINSON & SON, LIMITED, a British Company, of Railway Works, Rochdale, in the County of Lancaster, and FRANK BRIGHT ROBINSON, a British Subject, of the same address, do hereby declare the nature of this invention to be as follows:—

This invention has reference to wood planing and moulding machines and relates more particularly to machines of this kind having electric motors mounted directly on the cutterspindles though the invention is not limited to machines of this construction.

In wood planing and moulding machines it is necessary to mount the cutterspindles in such a manner that within limits they can be raised and lowered to and from the fixed table on which the timber rests while passing through the machine. In some such machines the cutterspindles must be supported at both ends though in others it is sufficient if they are supported at one end only, but whether they are supported at both ends or one end they are carried in a bearing member which is slidably mounted on the machine frame and this slidable bearing member also carries the electric motor when the cutterspindles are electrically driven. These bearing members are at present mounted in slides in a plane cutting the line of travel of the timber, that is to say across the machine and this arrangement while being satisfactory up to a point is not wholly satisfactory, and this invention has for its object to provide an improved method of mounting the bearing member which carries the cutterspindles and the electric motor where such as used.

According to this invention the bearing member which comprises a frame or yoke carrying the horizontal cutterblock spindle, bearings and means of rotation is mounted on a vertically movable slide at right angles to the axis of the cutterblock spindle and parallel to the line of travel of the timber, the means of rotation of the spindle being situated on one side of the slide and the cutter block on the other side, the whole being controlled by a vertical adjustment screw or other means to

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raise and lower the cutterblock to the desired position.

According to one embodiment of the invention where an electric motor is used mounted directly on the cutterspindle the bearing member carrying the motor and the cutterspindle is slidably mounted on slides on the side of the machine, the bearing member itself is in the form of a frame or yoke of strong construction and the part of it in which the slides are made is continued either upward or downward to form a strong bearing for the motor and cutterspindle. Projecting rearwards from the central sliding part referred to is a base to which the motor is secured and if the cutterspindle be supported at both ends a corresponding arm projects towards the operating side of the machine having a vertical portion at the end on which the outer bearing of the cutterspindle is mounted the outer bearing being easily removable to allow for the changing of the cutterblock on the spindle. This projecting arm, where used, is so designed that it will not obstruct the passage of the timber along the fixed table.

In planing and moulding machines it is common to use cutter blocks both above and below the timber at the same or at different times and this invention is equally applicable to cutters working either on the top or on the bottom of the timber.

The sliding bearing members are conveniently raised and lowered by means of a vertical adjustment screw in any known or convenient manner so that an easy and correct adjustment can quickly be obtained. It will be understood that by mounting the electric motor on one side of a strong bearing piece which apart from being slidable is immovable on the machine and by mounting the cutterblock on the opposite side of this bearing not only is convenience in manufacture and operation effected but a steadiness of running of the cutterblock is also obtained.

Dated this 21st day of July, 1930.

For the Applicants,
BARLOW, GILLET & PERCIVAL,
Chartered Patent Agents.

COMPLETE SPECIFICATION.

Improvements in and relating to Wood Planing and Moulding Machines.

We, THOMAS ROBINSON & SON, LIMITED, a British Company, of Railway Works, Rochdale, in the County of Lancaster, and FRANK BRIGHT ROBINSON, a British Subject, of the same address, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has reference to wood planing and moulding machines and relates more particularly to machines of this kind having electric motors mounted directly on the cutter spindles though the invention is not limited to machines of this construction.

In wood planing and moulding machines it is necessary to mount the cutter spindles in such a manner that within limits they can be raised and lowered to and from the fixed table on which the timber rests while passing through the machine. In some such machines the cutter spindles must be supported at both ends though in others it is sufficient if they are supported at one end only, but whether they are supported at both ends or one end they are carried in a bearing member which is slidably mounted on the machine frame and this slidable bearing member also carries the electric motor when the cutter spindles are electrically driven. These bearing members are at present mounted in slides in a plane cutting the line of travel of the timber, that is to say across the machine and this arrangement while being satisfactory up to a point is not wholly satisfactory and this invention has for its object to provide an improved method of mounting the bearing member which carries the cutter spindles and the electric motor where such is used.

According to this invention the bearing member which comprises a frame or yoke carrying the horizontal cutterblock spindle, bearings and means of rotation is mounted on a vertically movable slide at right angles to the axis of the cutterblock spindle and parallel to the line of travel of the timber, the means of rotation of the spindle being situated on one side of the slide and the cutter block on the other side, the whole being controlled by a vertical adjustment screw or other means to raise and lower the cutterblock to the desired position.

The invention is more particularly set forth with reference to the accompanying drawings wherein

Fig. 1 is a front elevation of a machine according to the invention

Fig. 2 is an end elevation and

Fig. 3 is a plan, the construction illustrated being one in which an electric motor is mounted or connected directly to the cutter spindle.

As shown in the drawings the machine comprises a frame 4 carrying a fixed table 5 in which the wood 6 rests when being planed or moulded. A fence 7 being provided on the table 5 in the usual manner. The frame 4 is provided with vertical slides 8, forming bearings for a vertical sliding block 9 and from the back of this slide a platform 10 projects which forms a bearing member or support frame or yoke for an electric motor 11.

From the front of the slide block 9 there projects an arm 12 upturned at its end 13 and carrying a bearing 14 in which the outside end of the cutter spindle 15 rotates; the cutter spindle 15 being made in one with, or directly coupled to, the spindle of the motor 11.

The cutter block 16 is mounted on the cutter spindle 15 between the outside bearing 14 and the slide block 9 and thus spans the fixed table 5. Similarly the arm 12 passes below the fixed table 5, and is so shaped that it may be moved up and down with the slide block 9 within the limits of the machine and be clear of the fixed table.

On the back of the slide block 9 is a screwed lug 16a in which one end of an adjusting screw 17 is engaged the screw being on a shaft 18 running in a lower bearing 19 and having below it a bevel pinion 20 meshing with a similar pinion 21 on a shaft 22 having a squared end 23 to which a handle may be fitted; this arrangement provides for the raising and lowering of the slide block 9 and with it the motor 11 and the cutterspindle 15.

While the invention has been described and illustrated with reference to a machine having an outside bearing it is to be understood that the invention is equally applicable to a machine in which the cutter spindle is not supported at the outside end, and also to a machine in which the cutter block is adapted to operate below the timber, the invention being

equally applicable to cutter working either on the top or bottom of the timber.

Where the outside bearing is used it is easily removable to allow for changing the
5 cutter block on the spindle.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we
10 claim is:—

1. An improved wood planing and moulding machine wherein the bearing member which comprises a frame or yoke carrying a horizontal cutter block spindle
15 bearings and means of rotation is mounted on a vertical movable slide at right-angles to the axis of the cutter block spindle and parallel to the line of travel of the timber, the means of rotation of the spindle being
20 situated on one side of the slide and the cutter block on the other side, the whole being controlled by a vertical adjustment screw or other means to raise and lower the cutter block to the desired position.

2. In a wood planing and moulding machine according to the preceding claim a platform or support on the bearing member adapted to carry an electric motor or other means of rotation and projecting from one side thereof and on the other
30 side an arm crossing to the opposite side of the fixed table whereon the work is carried and clear of this table and the work upon it supporting at its outside end a bearing for carrying the outside end of
35 the cutter spindle.

3. The improved wood planing and moulding machine constructed and adapted to operate substantially as set forth and as shown in the accompanying
40 drawings.

Dated this 21st day of April, 1931.

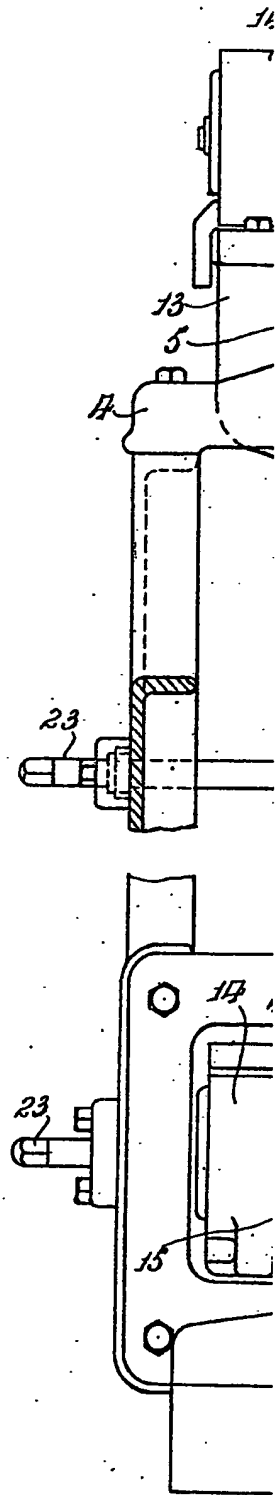
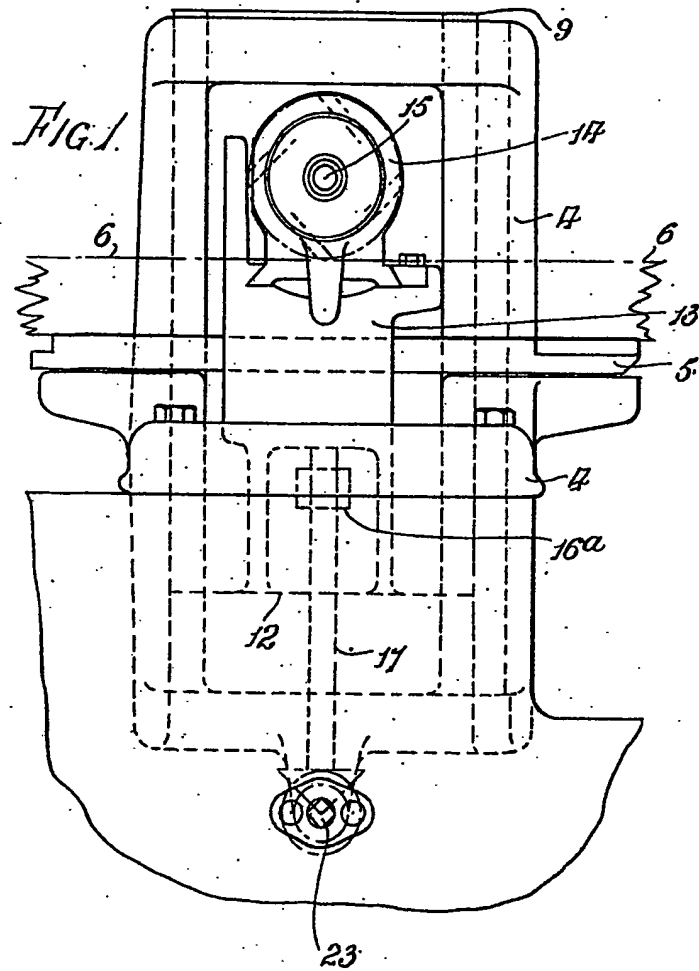
For the Applicants,
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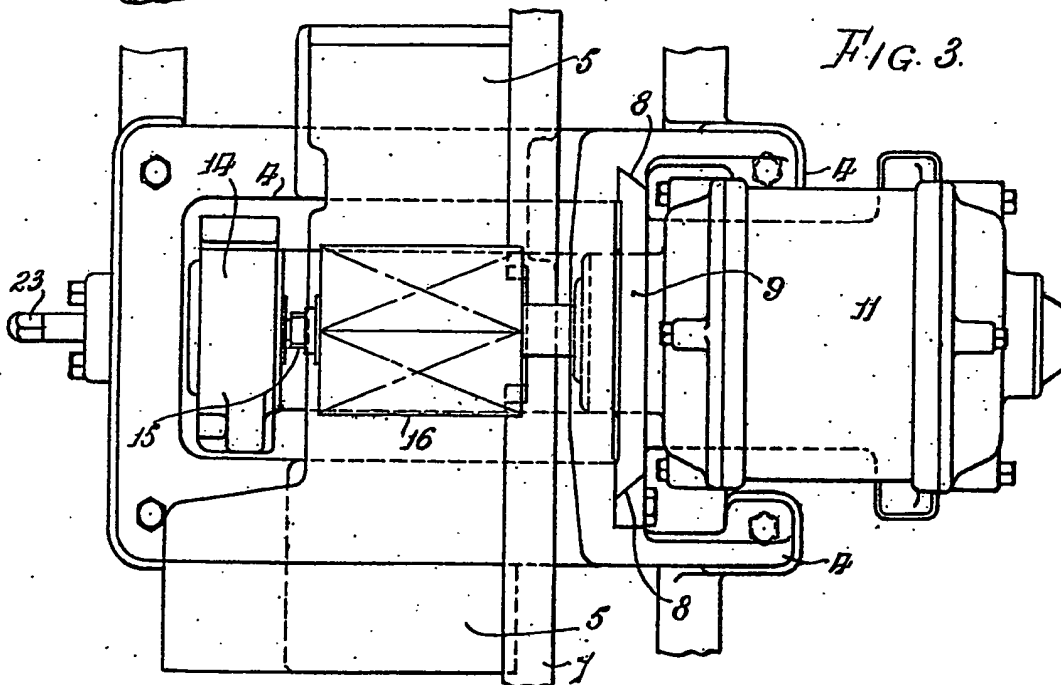
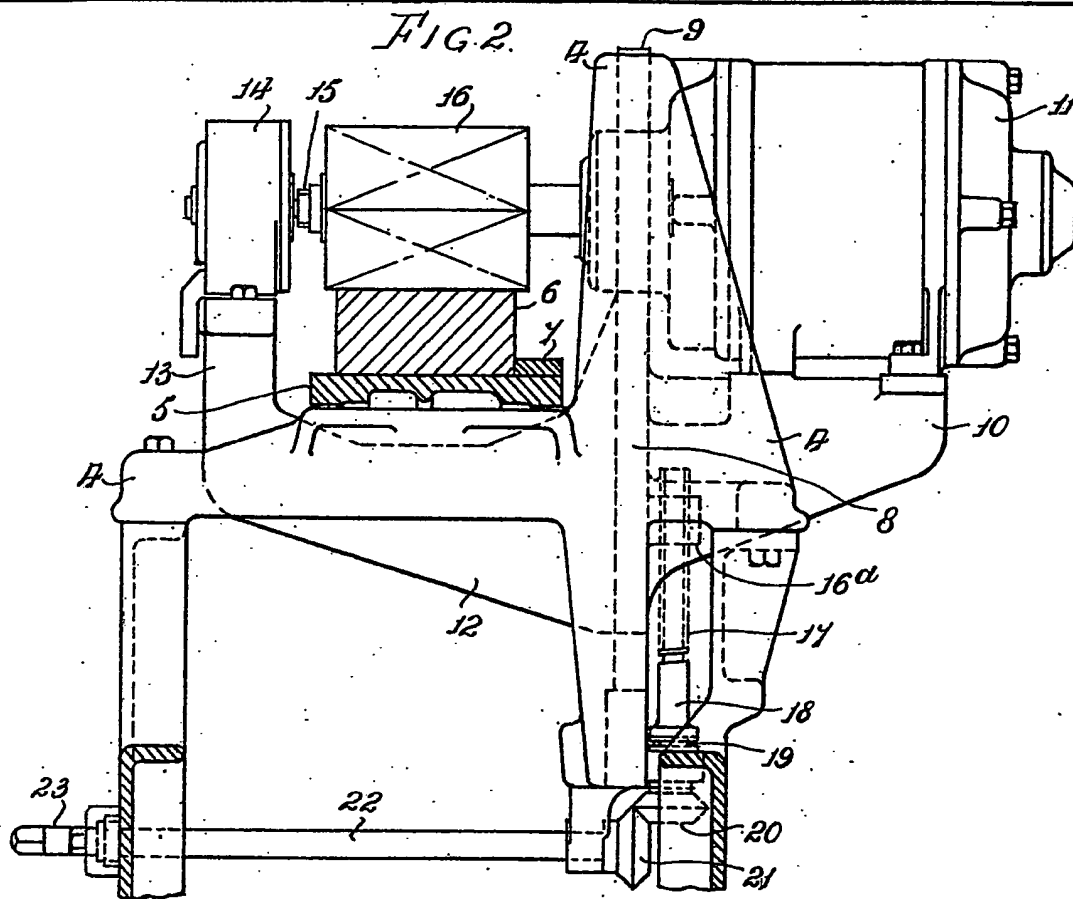
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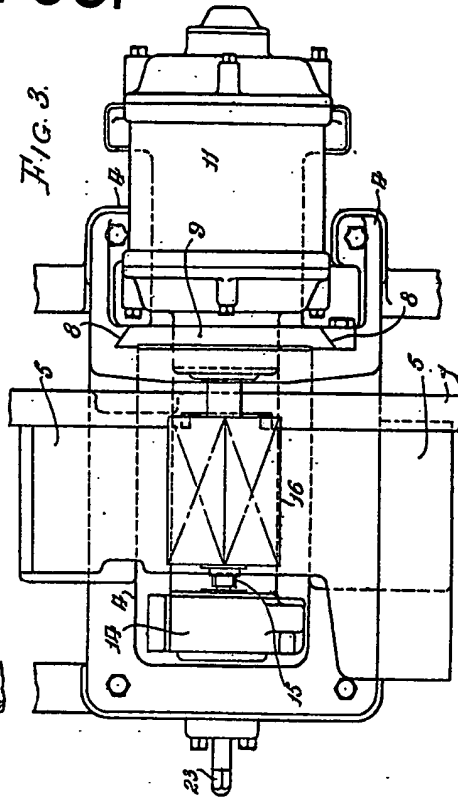
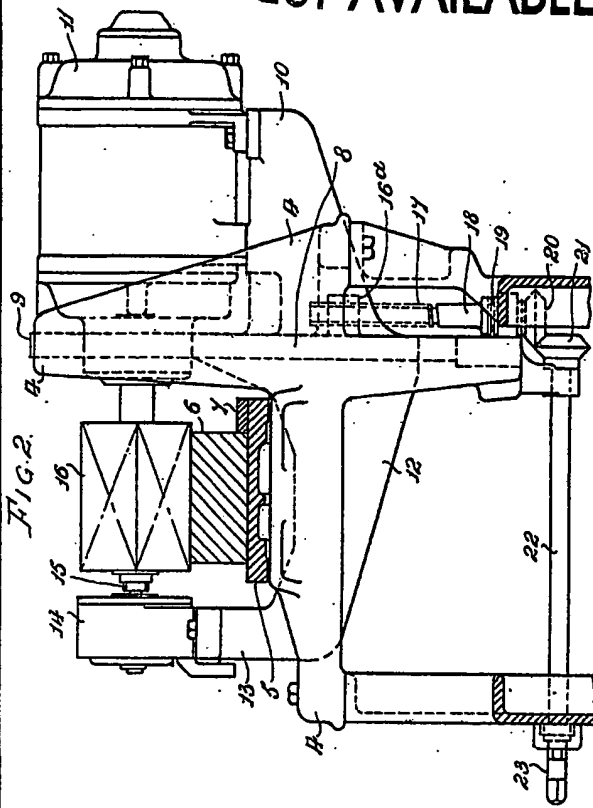
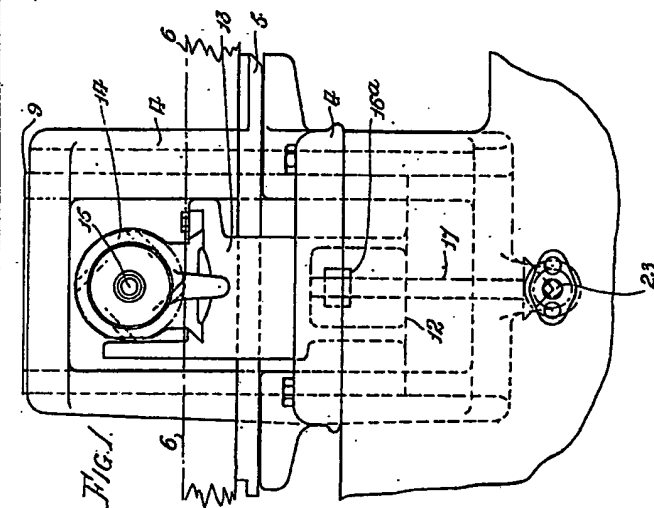
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